

**Pine Creek/Sulphurbeds Allotment**  
**LITTLE NORTH CREEK #3**  
**Riparian Browse Assessment**  
**(1) May 8, 2008**  
**(2) October 8, 2008**

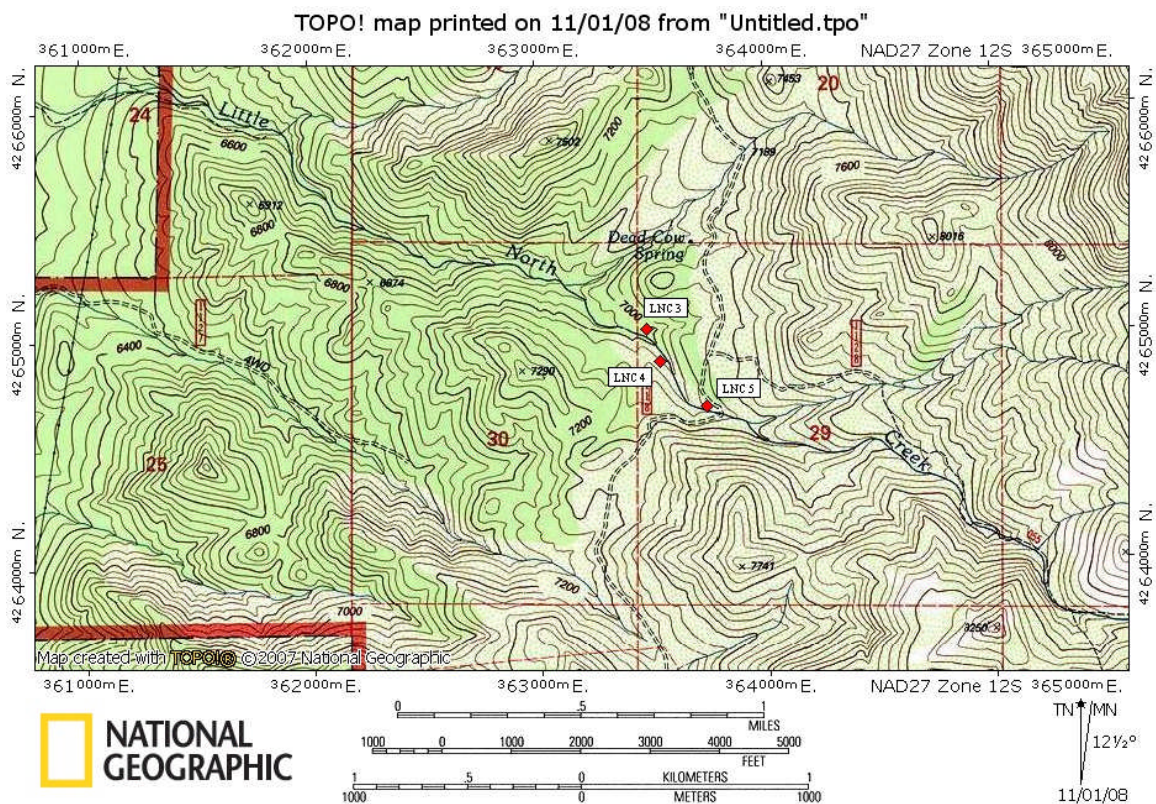
Little North Creek runs roughly southeast to northwest on the western boundary of the Pine Creek/Sulphurbeds Allotment. The canyon bottom has a gentle slope of about 2% in the area of Little North Creek Transect #3. The site is a mix of juniper, bigtooth maple, Gambel's oak and narrowleaf cottonwood (Fig. 1). An aging narrowleaf cottonwood gallery extends >100' back from the creek in openings with younger cottonwood shorter than 6' tall (Fig. 2). The stream banks lack willows. The creek is incised 3'-5'. (Fig. 3) Large ungulates can walk in the creek and young cottonwood growing on the bank slope are being browsed (Fig. 4). The creek banks upstream and downstream of Little North Creek #3 are often nearly denuded (Fig. 5).

Whether there is sufficient forage for cattle in the area of Little North Creek #3 would seem a valid question (see grass/grasslike utilization report that follows this report). Young cottonwood was being browsed to 2" (Fig. 6) and even rabbitbrush was being browsed (Fig. 7).

**(1: 5/8/08)** As of May 8, 70% of the tallest leaders and 76% of the subleaders of cottonwood <6' have been browsed. Cattle are scheduled to be present in the pasture after leaving Sulphurbeds Pasture (at least by August 15) and are to leave when grazed to allowable use standards or by Sept. 30, whichever comes first.

**(2: 10/8/08)** By October 8, 75% of the tallest leaders and 80% of the subleaders of cottonwood <6' have been browsed.

In both May and October, the height classes of 3.1'-6' are largely absent (p. 4), and the cottonwood >6' have an average diameter of 11"-14" (p. 5). Cottonwood of 3'-4' have an average of 6 (Oct) to 8 (May) leaders, indicating repeated consumption of the leaders (p. 6).



<b>Little North Creek transect #3</b>	5/8/08 Hoskisson/O'Brien 10/8/08 Hoskisson/O'Brien
Fishlake NF/Beaver RD	<b>Allotment:</b> Pine Creek/Sulphurbeds <b>Pasture:</b> Little North Creek
<b>Stake:</b> 12 S E 0363475 N 4265011 NAD CONUS 27 Stake is at downstream end, at upstream side of the middle of 3 large cottonwoods w/in 10' of the creek.	<b>Elevation:</b> 7,010'
<b>Aspect:</b> Facing N	<b>Animal sign:</b> cow patties
<b>Ave. Width of Riparian Area:</b> 69' for younger cottonwood trees. Older cottonwoods continue beyond 100' in openings.	
<b>Dominant Vegetation:</b> Narrowleaf cottonwood, big tooth maple, Gambel's oak, ballhead waterleaf ( <i>Hydrophyllum capitatum</i> ), Asteraceae sp., <i>Astragalus</i> , bunchgrass sp., Kentucky bluegrass, juniper, Wood's rose, chokecherry	
<b>Other notes:</b> Browse of young cottonwoods is extensive. The transect is near the division of reaches A20-7 and A20-8 described in the 2003 Level II Riparian Inventory (Petty 2003). The report states: (1) "The mean Pfankuch (1978) stream score was measured at 92.8, which is considered "fair", although some of the reaches were rated as "poor", using the adaptation of the Pfankuch rating to Rosgen's stream type classification. The stream in these sections is suffering from the impacts of heavy grazing on the riparian areas. This results in low bank vegetation cover and vigor, mass wasting of the	

upper banks and bank cutting. These problems were considerable in reaches A20-1 through A20-3 and A20-6, A20-7, A20-11 and A20-12.”

(2) “Reaches A10-6 through A20-10 are Mollisols. Areas of higher soil structure and organic matter were identified as Mollisols, however, due to compaction and loss of organic matter cycling the soils are losing structure. This is primarily due to cattle grazing.”

(3) “The lower and middle reaches show the impacts of continuous grazing, which were evident from the measured stubble height in the riparian of 1-3 inches, in reaches A20-8 and A20-12. . . Most of these measurements were made on Kentucky bluegrass and tufted hairgrass. Also documented were large barren areas in reaches below A20-12 where cattle have removed all of the vegetation.”

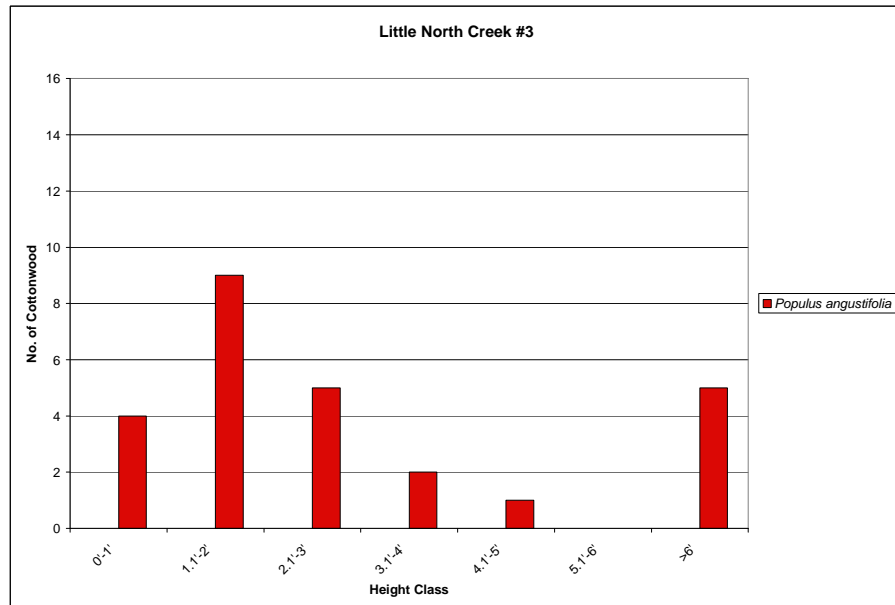
The report recommended, “Better grazing management is needed on this st[r]eam as many areas are showing grazing over use. The cattle are confined to the riparian area in this watershed, as shrub growth is so heavy in the uplands that cattle cannot use them. Therefore, cattle spend most of their time on the riparian.”

Petty recommends prescribed fire among the dense Gambel oak; “In addition, water developments located to water livestock on the slopes and mesas of the area would be needed, as well as better herding, and possibly riparian exclosures.” [O’Brien note: Cheatgrass expansion would have to be considered as a potential result of prescribed fire at this elevation.]

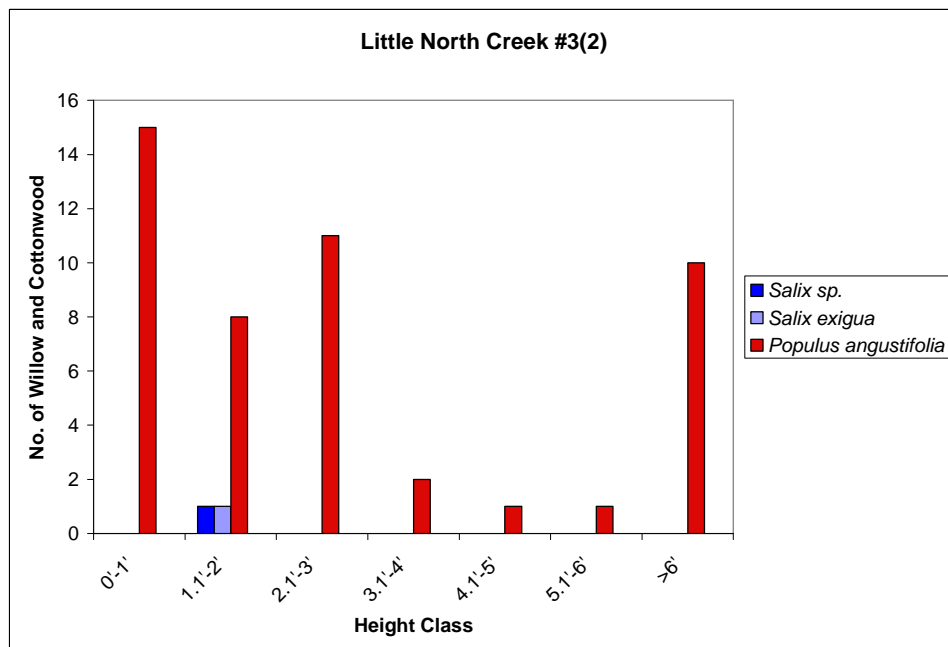
“Reaches A20-12 and A20-8 would be excellent locations for Level III Riparian Surveys. However, these areas are in the poorest condition and the forage trend can only go up.”

**Question:** No cottonwoods are reaching maturity and have not for many years. Eventually the lack of cottonwoods will lead to further degradation of Little North Creek. **How will the Fishlake NF assure that cottonwoods will reach maturity?**

5/8/08



10/8/08



**5/8/08**

4 *Populus angustifolia* >6': Ave. DBH 13.6"

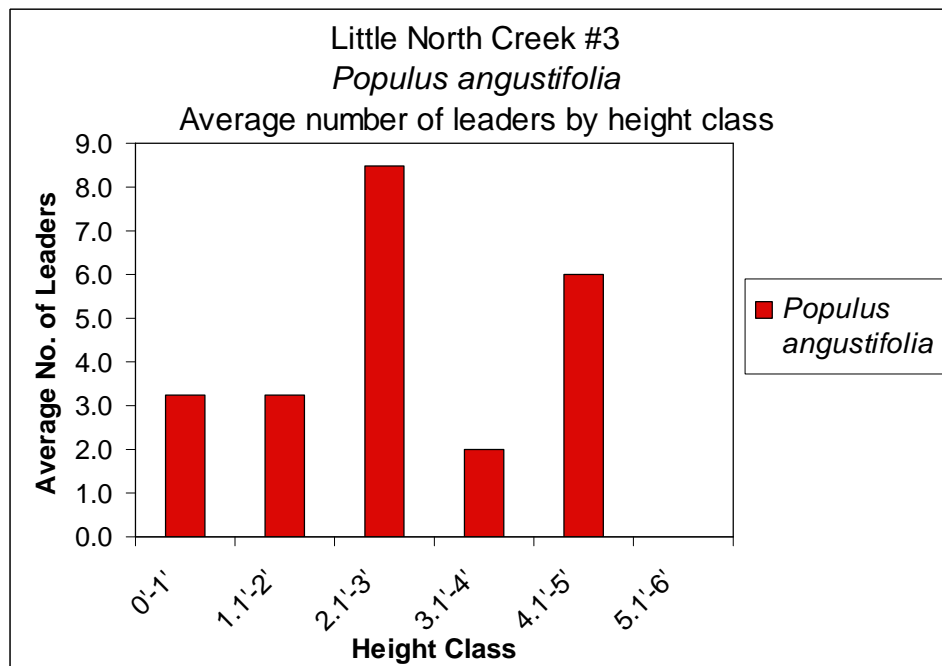
<b>Little North Creek #3</b> 21 <i>Populus angustifolia</i> <6'	
	<i>Populus angustifolia</i>
% tall leaders browsed	70.0
% tall leaders browsed or dead	70.0
% subleaders browsed	76.4
% subleaders browsed or dead	80.0

**10/8/08**

10 *Populus angustifolia* >6': Ave. DBH 10.8"

<b>Little North Creek #3(2)</b> 36 <i>Populus angustifolia</i> <6' 2 dead <i>Populus angustifolia</i> <6' 1 <i>Salix exigua</i> <6' 1 dead <i>Salix</i> sp. <6'		
	<i>Salix exigua</i>	<i>Populus angustifolia</i>
% tall leaders browsed	100.0	75.0
% tall leaders browsed or dead	100.0	75.0
% subleaders browsed	25.0	79.8
% subleaders browsed or dead	25.0	83.3

5/8/08



10/8/08

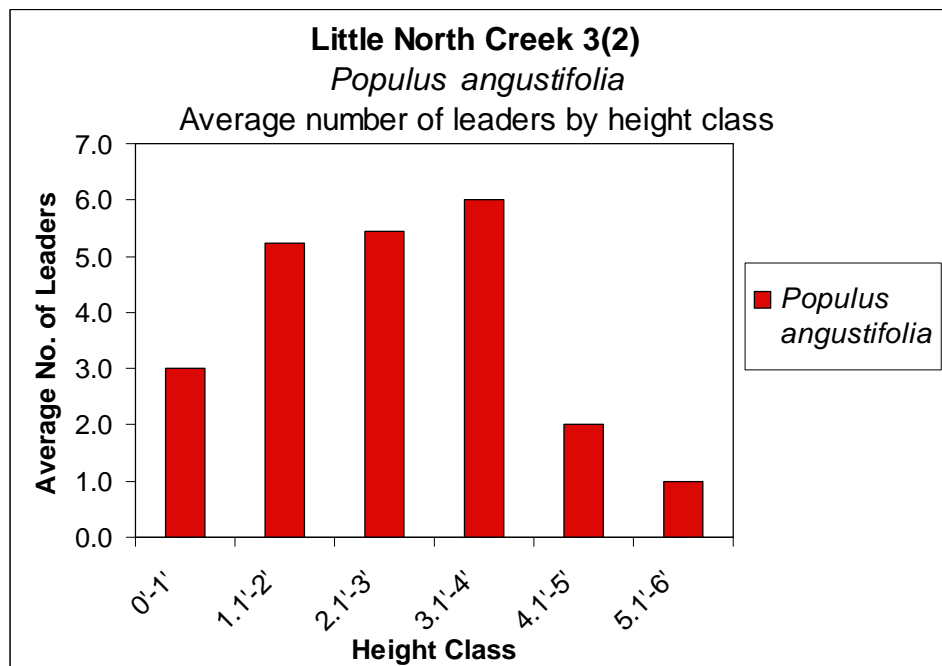






Fig. 1 (10/8/08) LNC3 site: Bigtooth maple, mature willow, Gambel's oak, juniper.



Fig. 2. Browsed cottonwood 100' from creek.





Fig. 3 (5/8/08) Little North Creek is incised 3/-5' at LNC #3



Fig. 4 (10/8/08) Cottonwood on the bank are reached by ungulates walking in the creek.





Fig. 5 (10/8/08) Banks of Little North Creek are denuded at locations upstream and downstream of Little North Creek #3.



Fig. 6 (10/8/08) Cottonwood browsed to 2.4"



Fig. 7 (10/8/08) Browsed rabbitbrush <1' tall.

## Reference

Petty, Jeff. 2003. Fishlake National Forest 2003 Level II Riparian Inventory: Little North Creek Area. Shell, WY: Shell Valley Consulting.

### Little North Creek #3 Riparian Grass/Grasslike Utilization October 8, 2008

**Allotment:** Pine Creek/Sulphurbeds

**Pasture:** Little North Creek

**Creek/Stream:** Little North Creek

**2008 Annual Operating Instructions dates of livestock entry/exit:** Cattle were scheduled to enter the pasture after leaving Sulphurbeds Pasture (at least by Aug 16), and to remain until allowable use standards were met, or by Sept 30, whichever comes first.

**Surveyors:** O'Brien and Hoskisson

Little North Creek runs roughly southeast to northwest on the western boundary of the Pine Creek/Sulphurbeds Allotment. The canyon bottom has a gentle slope of about 2% in the area of Little North Creek Transect #3. The site is a mix of juniper, bigtooth maple, Gambel's oak and narrowleaf cottonwood (Fig. 1, above).

This transect was read approximately eight days after cattle were to be moved from the pasture. Kentucky bluegrass was the dominant grass, but was sparse; other (unidentified) grasses were encountered (Fig. 8) A grass or sedge was encountered within 3" of the transect at 41% of the 110 transect points; forbs were rare. The average height of Kentucky bluegrass was 2.1" (within utilization standard) and the three sedge plants averaged 1.8" (less than the 4" utilization standard).

Grass/Grasslike Utilization: 10/10/2008											
Kentucky Bluegrass ( <i>Poa pratensis</i> )				Other Grasses				Sedges and/or Rushes			
Ave. ht(in) Accessible	N	Ave. ht(in) Inaccessible	N	Ave. ht(in) Accessible	N	Ave. ht(in) Inaccessible	N	Ave. ht(in) Accessible	N	Ave. ht(in) Inaccessible	N
2.1"	19	5.2"	11	1.8"	8	3.2"	2	1.8"	3	NA	0

#### Methodology note

The average height (inches) of a grass or sedge was measured every 2' from the creek (0') to 48' along the five browse transects, except where a Gambel's oak or bigtooth maple thicket ended the riparian meadow. The grass nearest to, but no farther than 3" from, the transect point was recorded. Kentucky bluegrass was the only grass encountered, to which a Fishlake NF utilization standard (1.5" rather than 4" for hydric grass/grasslike species) is applied<sup>1</sup>. A sedge was encountered twice (a 4" utilization standard applies).

<sup>1</sup> The four inch stubble height for hydric (i.e., adapted to a wet, but not flooded habitat) plants is part of the allowable forage utilization criteria that were revised through a Fishlake National Forest Plan amendment in 2002. These revised forage utilization



The droop height of plants accessible to large ungulate grazing was recorded separately from the droop height of plants inaccessible to grazing, e.g., at the base of a rock. Those grasses inaccessible were often laying down, with blades much longer (e.g., 10"-12") than droop height (e.g., 2").



Fig. 8 (10/8/08) Sparse grass; Kentucky bluegrass shown at ,1.5" (red mark on yellow tab, which is 4" tall).

criteria prescribe allowable use levels for both upland and riparian sites. As the Fishlake NF explains this: "The description for riparian areas is a uniform 4" stubble height. Reaching the 4" stubble height triggers the time to move livestock, either between units or off the allotment. These criteria allow no manipulation to plan use of expected regrowth—once the 4" stubble height is reached, livestock are moved, without the opportunity for twice-over use. Livestock are moved to the next pasture or removed from the allotment when any utilization threshold (upland forage utilization, stream bank alteration, riparian forage utilization, riparian vegetation stubble height, or riparian woody browse utilization) is reached. Meeting or exceeding one of these threshold levels initiates a move of livestock." (USFS 2006)

Fishlake National Forest riparian utilization standards include (USFS 2006):

**Riparian hydric species:**

4" triggers the time to move livestock between units or off the allotment

**Riparian Emphasis Management Areas**

6" triggers the time to move livestock between units or off the allotment

**Non-hydric Sod-Forming Grass Species in Riparian Areas**

1 ½ " Primarily Kentucky bluegrass--Triggers the time to move livestock between units or off the allotment



